

UNKNOWN

#5

## RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/5/6/908  
Source: PCT  
Date Processed by STIC: 12-17-04

***ENTERED***

RAW SEQUENCE LISTING                      DATE: 12/17/2004  
PATENT APPLICATION: US/10/516,908        TIME: 15:54:52

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3 <110> APPLICANT: Wun, Tze-Chein
5 <120> TITLE OF INVENTION: Novel Recombinant Anticoagulant Proteins
7 <130> FILE REFERENCE: 60020830-0003
C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/516,908
C--> 10 <141> CURRENT FILING DATE: 2004-12-03
12 <150> PRIOR APPLICATION NUMBER: US 06/386,932
13 <151> PRIOR FILING DATE: 2002-06-06
15 <160> NUMBER OF SEQ ID NOS: 41
17 <170> SOFTWARE: PatentIn version 3.2
19 <210> SEQ ID NO: 1
20 <211> LENGTH: 382
21 <212> TYPE: PRT
22 <213> ORGANISM: Artificial
24 <220> FEATURE:
25 <223> OTHER INFORMATION: Fusion protein: human-derived ANV with TAP
27 <400> SEQUENCE: 1
29 Ala Tyr Asn Arg Leu Cys Ile Lys Pro Arg Asp Trp Ile Asp Glu Cys
30 1 5 10 15
33 Asp Ser Asn Glu Gly Gly Glu Arg Ala Tyr Phe Arg Asn Gly Lys Gly
34 20 25 30
37 Gly Cys Asp Ser Phe Trp Ile Cys Pro Glu Asp His Thr Gly Ala Asp
38 35 40 45
41 Tyr Tyr Ser Ser Tyr Asn Asp Cys Phe Asn Ala Cys Ile Gly Ser Ala
42 50 55 60
45 Gln Val Leu Arg Gly Thr Val Thr Asp Phe Pro Gly Phe Asp Glu Arg
46 65 70 75 80
49 Ala Asp Ala Glu Thr Leu Arg Lys Ala Met Lys Gly Leu Gly Thr Asp
50 85 90 95
53 Glu Glu Ser Ile Leu Thr Leu Leu Thr Ser Arg Ser Asn Ala Gln Arg
54 100 105 110
57 Gln Glu Ile Ser Ala Ala Phe Lys Thr Leu Phe Gly Arg Asp Leu Leu
58 115 120 125
61 Asp Asp Leu Lys Ser Glu Leu Thr Gly Lys Phe Glu Lys Leu Ile Val
62 130 135 140
65 Ala Leu Met Lys Pro Ser Arg Leu Tyr Asp Ala Tyr Glu Leu Lys His
66 145 150 155 160
69 Ala Leu Lys Gly Ala Gly Thr Asn Glu Lys Val Leu Thr Glu Ile Ile
70 165 170 175
73 Ala Ser Arg Thr Pro Glu Glu Leu Arg Ala Ile Lys Gln Val Tyr Glu
74 180 185 190
77 Glu Glu Tyr Gly Ser Ser Leu Glu Asp Asp Val Val Gly Asp Thr Ser
78 195 200 205
81 Gly Tyr Tyr Gln Arg Met Leu Val Val Leu Leu Gln Ala Asn Arg Asp

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## RAW SEQUENCE LISTING

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Input Set : A:\60020830-0003 sequence listing.txt

Output Set: N:\CRF4\12172004\J516908.raw

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82      210      215      220
85 Pro Asp Ala Gly Ile Asp Glu Ala Gln Val Glu Gln Asp Ala Gln Ala
86 225      230      235      240
89 Leu Phe Gln Ala Gly Glu Leu Lys Trp Gly Thr Asp Glu Glu Lys Phe
90      245      250      255
93 Ile Thr Ile Phe Gly Thr Arg Ser Val Ser His Leu Arg Lys Val Phe
94      260      265      270
97 Asp Lys Tyr Met Thr Ile Ser Gly Phe Gln Ile Glu Glu Thr Ile Asp
98      275      280      285
101 Arg Glu Thr Ser Gly Asn Leu Glu Gln Leu Leu Leu Ala Val Val Lys
102      290      295      300
105 Ser Ile Arg Ser Ile Pro Ala Tyr Leu Ala Glu Thr Leu Tyr Tyr Ala
106 305      310      315      320
109 Met Lys Gly Ala Gly Thr Asp Asp His Thr Leu Ile Arg Val Met Val
110      325      330      335
113 Ser Arg Ser Glu Ile Asp Leu Phe Asn Ile Arg Lys Glu Phe Arg Lys
114      340      345      350
117 Asn Phe Ala Thr Ser Leu Tyr Ser Met Ile Lys Gly Asp Thr Ser Gly
118      355      360      365
121 Asp Tyr Lys Lys Ala Leu Leu Leu Leu Ala Gly Glu Asp Asp
122      370      375      380

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125 &lt;210&gt; SEQ ID NO: 2

126 &lt;211&gt; LENGTH: 378

127 &lt;212&gt; TYPE: PRT

128 &lt;213&gt; ORGANISM: Artificial

130 &lt;220&gt; FEATURE:

131 <223> OTHER INFORMATION: Fusion protein: human-derived ANV with artificial 6L15 (a variant

132 of naturally-occurring bovine pancreatic trypsin inhibitor)

134 &lt;400&gt; SEQUENCE: 2

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136 Ala Gln Val Leu Arg Gly Thr Val Thr Asp Phe Pro Gly Phe Asp Glu
137 1      5      10      15
140 Arg Ala Asp Ala Glu Thr Leu Arg Lys Ala Met Lys Gly Leu Gly Thr
141      20      25      30
144 Asp Glu Glu Ser Ile Leu Thr Leu Thr Ser Arg Ser Asn Ala Gln
145      35      40      45
148 Arg Gln Glu Ile Ser Ala Ala Phe Lys Thr Leu Phe Gly Arg Asp Leu
149      50      55      60
152 Leu Asp Asp Leu Lys Ser Glu Leu Thr Gly Lys Phe Glu Lys Leu Ile
153 65      70      75      80
156 Val Ala Leu Met Lys Pro Ser Arg Leu Tyr Asp Ala Tyr Glu Leu Lys
157      85      90      95
160 His Ala Leu Lys Gly Ala Gly Thr Asn Glu Lys Val Leu Thr Glu Ile
161      100      105      110
164 Ile Ala Ser Arg Thr Pro Glu Glu Leu Arg Ala Ile Lys Gln Val Tyr
165      115      120      125
168 Glu Glu Glu Tyr Gly Ser Ser Leu Glu Asp Asp Val Val Gly Asp Thr
169      130      135      140
172 Ser Gly Tyr Tyr Gln Arg Met Leu Val Val Leu Leu Gln Ala Asn Arg
173 145      150      155      160

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176 Asp Pro Asp Ala Gly Ile Asp Glu Ala Gln Val Glu Gln Asp Ala Gln
177          165          170          175
180 Ala Leu Phe Gln Ala Gly Glu Leu Lys Trp Gly Thr Asp Glu Glu Lys
181          180          185          190
184 Phe Ile Thr Ile Phe Gly Thr Arg Ser Val Ser His Leu Arg Lys Val
185          195          200          205
188 Phe Asp Lys Tyr Met Thr Ile Ser Gly Phe Gln Ile Glu Glu Thr Ile
189          210          215          220
192 Asp Arg Glu Thr Ser Gly Asn Leu Glu Gln Leu Leu Leu Ala Val Val
193 225          230          235          240
196 Lys Ser Ile Arg Ser Ile Pro Ala Tyr Leu Ala Glu Thr Leu Tyr Tyr
197          245          250          255
200 Ala Met Lys Gly Ala Gly Thr Asp Asp His Thr Leu Ile Arg Val Met
201          260          265          270
204 Val Ser Arg Ser Glu Ile Asp Leu Phe Asn Ile Arg Lys Glu Phe Arg
205          275          280          285
208 Lys Asn Phe Ala Thr Ser Leu Tyr Ser Met Ile Lys Gly Asp Thr Ser
209          290          295          300
212 Gly Asp Tyr Lys Lys Ala Leu Leu Leu Ala Gly Glu Asp Asp Met
213 305          310          315          320
216 His Pro Asp Phe Cys Leu Glu Pro Pro Tyr Asp Gly Pro Cys Arg Ala
217          325          330          335
220 Leu His Leu Arg Tyr Phe Tyr Asn Ala Lys Ala Gly Leu Cys Gln Thr
221          340          345          350
224 Phe Tyr Tyr Gly Gly Cys Leu Ala Lys Arg Asn Asn Phe Glu Ser Ala
225          355          360          365
228 Glu Asp Cys Met Arg Thr Cys Gly Gly Ala
229          370          375
232 <210> SEQ ID NO: 3
233 <211> LENGTH: 376
234 <212> TYPE: PRT
235 <213> ORGANISM: Artificial
237 <220> FEATURE:
238 <223> OTHER INFORMATION: Fusion protein:human-derived ANV with synthetic human K-APP
240 <400> SEQUENCE: 3
242 Ala Gln Val Leu Arg Gly Thr Val Thr Asp Phe Pro Gly Phe Asp Glu
243 1          5          10          15
246 Arg Ala Asp Ala Glu Thr Leu Arg Lys Ala Met Lys Gly Leu Gly Thr
247          20          25          30
250 Asp Glu Glu Ser Ile Leu Thr Leu Leu Thr Ser Arg Ser Asn Ala Gln
251          35          40          45
254 Arg Gln Glu Ile Ser Ala Ala Phe Lys Thr Leu Phe Gly Arg Asp Leu
255          50          55          60
258 Leu Asp Asp Leu Lys Ser Glu Leu Thr Gly Lys Phe Glu Lys Leu Ile
259 65          70          75          80
262 Val Ala Leu Met Lys Pro Ser Arg Leu Tyr Asp Ala Tyr Glu Leu Lys
263          85          90          95
266 His Ala Leu Lys Gly Ala Gly Thr Asn Glu Lys Val Leu Thr Glu Ile
267          100          105          110

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Input Set : A:\60020830-0003 sequence listing.txt

Output Set: N:\CRF4\12172004\J516908.raw

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270 Ile Ala Ser Arg Thr Pro Glu Glu Leu Arg Ala Ile Lys Gln Val Tyr
271      115      120      125
274 Glu Glu Glu Tyr Gly Ser Ser Leu Glu Asp Asp Val Val Gly Asp Thr
275      130      135      140
278 Ser Gly Tyr Tyr Gln Arg Met Leu Val Val Leu Leu Gln Ala Asn Arg
279 145      150      155      160
282 Asp Pro Asp Ala Gly Ile Asp Glu Ala Gln Val Glu Gln Asp Ala Gln
283      165      170      175
286 Ala Leu Phe Gln Ala Gly Glu Leu Lys Trp Gly Thr Asp Glu Glu Lys
287      180      185      190
290 Phe Ile Thr Ile Phe Gly Thr Arg Ser Val Ser His Leu Arg Lys Val
291      195      200      205
294 Phe Asp Lys Tyr Met Thr Ile Ser Gly Phe Gln Ile Glu Glu Thr Ile
295      210      215      220
298 Asp Arg Glu Thr Ser Gly Asn Leu Glu Gln Leu Leu Leu Ala Val Val
299 225      230      235      240
302 Lys Ser Ile Arg Ser Ile Pro Ala Tyr Leu Ala Glu Thr Leu Tyr Tyr
303      245      250      255
306 Ala Met Lys Gly Ala Gly Thr Asp Asp His Thr Leu Ile Arg Val Met
307      260      265      270
310 Val Ser Arg Ser Glu Ile Asp Leu Phe Asn Ile Arg Lys Glu Phe Arg
311      275      280      285
314 Lys Asn Phe Ala Thr Ser Leu Tyr Ser Met Ile Lys Gly Asp Thr Ser
315      290      295      300
318 Gly Asp Tyr Lys Lys Ala Leu Leu Leu Leu Ala Gly Glu Asp Asp Glu
319 305      310      315      320
322 Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Arg Ala Met Ile Ser
323      325      330      335
326 Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr
327      340      345      350
330 Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys
331      355      360      365
334 Met Ala Val Cys Gly Ser Ala Ile
335      370      375
338 <210> SEQ ID NO: 4
339 <211> LENGTH: 459
340 <212> TYPE: PRT
341 <213> ORGANISM: Artificial
343 <220> FEATURE:
344 <223> OTHER INFORMATION: Fusion protein: human-derived ANV with KK-TFPI (a human
sequence)
346 <400> SEQUENCE: 4
348 Ala Gln Val Leu Arg Gly Thr Val Thr Asp Phe Pro Gly Phe Asp Glu
349 1      5      10      15
352 Arg Ala Asp Ala Glu Thr Leu Arg Lys Ala Met Lys Gly Leu Gly Thr
353      20      25      30
356 Asp Glu Glu Ser Ile Leu Thr Leu Leu Thr Ser Arg Ser Asn Ala Gln
357      35      40      45
360 Arg Gln Glu Ile Ser Ala Ala Phe Lys Thr Leu Phe Gly Arg Asp Leu
361      50      55      60

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TIME: 15:54:52

Input Set : A:\60020830-0003 sequence listing.txt

Output Set: N:\CRF4\12172004\J516908.raw

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364 Leu Asp Asp Leu Lys Ser Glu Leu Thr Gly Lys Phe Glu Lys Leu Ile
365 65 70 75 80
368 Val Ala Leu Met Lys Pro Ser Arg Leu Tyr Asp Ala Tyr Glu Leu Lys
369 85 90 95
372 His Ala Leu Lys Gly Ala Gly Thr Asn Glu Lys Val Leu Thr Glu Ile
373 100 105 110
376 Ile Ala Ser Arg Thr Pro Glu Glu Leu Arg Ala Ile Lys Gln Val Tyr
377 115 120 125
380 Glu Glu Glu Tyr Gly Ser Ser Leu Glu Asp Asp Val Val Gly Asp Thr
381 130 135 140
384 Ser Gly Tyr Tyr Gln Arg Met Leu Val Val Leu Leu Gln Ala Asn Arg
385 145 150 155 160
388 Asp Pro Asp Ala Gly Ile Asp Glu Ala Gln Val Glu Gln Asp Ala Gln
389 165 170 175
392 Ala Leu Phe Gln Ala Gly Glu Leu Lys Trp Gly Thr Asp Glu Glu Lys
393 180 185 190
396 Phe Ile Thr Ile Phe Gly Thr Arg Ser Val Ser His Leu Arg Lys Val
397 195 200 205
400 Phe Asp Lys Tyr Met Thr Ile Ser Gly Phe Gln Ile Glu Glu Thr Ile
401 210 215 220
404 Asp Arg Glu Thr Ser Gly Asn Leu Glu Gln Leu Leu Leu Ala Val Val
405 225 230 235 240
408 Lys Ser Ile Arg Ser Ile Pro Ala Tyr Leu Ala Glu Thr Leu Tyr Tyr
409 245 250 255
412 Ala Met Lys Gly Ala Gly Thr Asp Asp His Thr Leu Ile Arg Val Met
413 260 265 270
416 Val Ser Arg Ser Glu Ile Asp Leu Phe Asn Ile Arg Lys Glu Phe Arg
417 275 280 285
420 Lys Asn Phe Ala Thr Ser Leu Tyr Ser Met Ile Lys Gly Asp Thr Ser
421 290 295 300
424 Gly Asp Tyr Lys Lys Ala Leu Leu Leu Leu Ala Gly Glu Asp Asp Met
425 305 310 315 320
428 His Ser Phe Cys Ala Phe Lys Ala Asp Asp Gly Pro Cys Lys Ala Ile
429 325 330 335
432 Met Lys Arg Phe Phe Phe Asn Ile Phe Thr Arg Gln Cys Glu Glu Phe
433 340 345 350
436 Ile Tyr Gly Gly Cys Glu Gly Asn Gln Asn Arg Phe Glu Ser Leu Glu
437 355 360 365
440 Glu Cys Lys Lys Met Cys Thr Arg Asp Asn Ala Asn Arg Ile Ile Lys
441 370 375 380
444 Thr Thr Leu Gln Gln Glu Lys Pro Asp Phe Cys Phe Leu Glu Glu Asp
445 385 390 395 400
448 Pro Gly Ile Cys Arg Gly Tyr Ile Thr Arg Tyr Phe Tyr Asn Asn Gln
449 405 410 415
452 Thr Lys Gln Cys Glu Arg Phe Lys Tyr Gly Gly Cys Leu Gly Asn Met
453 420 425 430
456 Asn Asn Phe Glu Thr Leu Glu Glu Cys Lys Asn Ile Cys Glu Asp Gly
457 435 440 445
460 Pro Asn Gly Phe Gln Val Asp Asn Tyr Gly Thr

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RAW SEQUENCE LISTING ERROR SUMMARY      DATE: 12/17/2004  
PATENT APPLICATION:    US/10/516,908      TIME: 15:54:53

Input Set : A:\60020830-0003 sequence listing.txt  
Output Set: N:\CRF4\12172004\J516908.raw

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete,  
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:1,2,3,4,5,6,7,8,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29  
Seq#:30,31,32,33,34,35,36,37,38,39,40,41

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/516,908

DATE: 12/17/2004

TIME: 15:54:53

Input Set : A:\60020830-0003 sequence listing.txt

Output Set: N:\CRF4\12172004\J516908.raw

L:9 M:270 C: Current Application Number differs, Replaced Current Application Number  
L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date